Appl. No. 10/599,836   **Page 6 of 9**
Amendment and/or Response
Reply to Office action of 13 May 2009
Confirmation no. 5325

REMARKS / DISCUSSION OF ISSUES

The present amendment is submitted in response to the Final Office Action mailed May 13, 2009. In view of the remarks to follow, reconsideration and allowance of this application are respectfully requested.

Status of the Claims

Claims 1-15 remain in this application. Claims 1-10 have been indicated as being allowable. Claims 11 and 13 have been amended.

Allowable Subject Matter

Applicants wish to thank the Examiner for indicating that Claims 1-10 are allowable.

Rejections under 112, Second Paragraph

In the Office Action, claim 13 was rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as his invention. Claim 13 has been amended in a manner which is believed to overcome the rejection. Specifically, Claim 13 has been amended to remove the objectionable recitation "the channel" making the claim indefinite.

Rejections under 35 U.S.C. §102(e)

I.   Claims 11-15 are allowable

In the Office Action, Claims 11-15 stand rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent Application No. 2004/0088637 ("Wada"). Applicants respectfully traverse the rejections.

The cited portions of Wada do not anticipate claim 11, because the cited portions of Wada fail to disclose every element of claim 11, as more precisely and specifically claimed. For example, the cited portions of Wada fail to disclose or suggest, "*wherein said slicer apparatus performs threshold decisions in respect of said received high frequency signal waveform, and performs adjustments of the slicer-level in accordance with said threshold decisions based on* minimizing *a running digital sum (RDS) signal, that is calculated at the*

Appl. No. 10/599,836   **Page 7 of 9**
Amendment and/or Response
Reply to Office action of 13 May 2009
Confirmation no. 5325

receiver using an immediate output of the slicer, wherein the RDS signal is also calculated at

the encoder to generate DC-control bits in said encoder", as recited in claim 11 (Emphasis

Added). It is respectfully submitted that a careful examination of the cited portions of Wada,

see par. 29, and specifically slicer 13 thereof, will show that the above recitation of claim 11

is not clearly met.

Applicants respectfully submit that the slicer apparatus taught in Wada and the

invention include similarities and **differences**. It is well known that a slicer is responsible to

set a threshold based on a binarized input signal. Wada and the invention are similar only in

this regard. Wada's slicer sets an optimal DC position by minimizing a bit error rate

calculated after a bit detector. Since true bits are usually unknown, a pre-requisite of the

method of Wada is that the receiver is able to find a particular location on the disc where the

bits are a-priori known. In contrast to Wada, the slicer position, according to the invention, is

determined by minimizing a running digital sum (RDS) signal that is calculated only using the

immediate output of the slicer, without a need to know any bits on the disc. In other words,

the slicer sets its position at which an RDS signal gets minimized. The RDS is calculated at

the receiver using the threshold decisions at the immediate output of the slicer.

The Office asserts, at pages 2-3 of the Office Action, that Wada discloses a receiver

with a slicer apparatus for controlling the DC-level of a received high frequency signal

waveform, wherein said slicer apparatus performs threshold decisions in respect of said

received high frequency signal waveform and performs adjustments of the slicer-level in

accordance with said threshold decisions. As described above, adjustments of the slicer-level

are taught in both the instant invention and Wada, however, a key difference between Wada

and the instant invention is the manner in which the adjustments are performed. More

particularly, the slicer in Wada is differentiated from the slicer of the instant invention in that

the slicer in Wada **does not** make its determination based on calculating a running digital sum

(RDS) signal. Instead, Wada teaches that the threshold value is adjusted by setting an optimal

DC position by minimizing a bit error rate calculated after a bit detector. See Wada, par. 29:

[0029] ...a slice balance adjustment circuit 18 connected to error rate detection circuit 16 and slicer 13
for adjusting a threshold value in binarization by slicer 13 to reduce an error rate in error rate detection circuit 16,
...

Appl. No. 10/599,836   **Page 8 of 9**
Amendment and/or Response
Reply to Office action of 13 May 2009
Confirmation no. 5325

The receiver of Wada is is able to find a particular location on the disc where the bits reside that are **a-priori known, in terms of '0' or '1'**, in order to calculate a bit error rate. In contrast to Wada, the receiver of the invention does not know where the bits reside, in terms **of '0' or '1'**, in order to calculate a bit error rate. Instead, the slicer position is determined by minimizing a running digital sum (RDS) signal that is calculated using the immediate output of the slicer without the need to have any known bits on the disc, as required by Wada. In this manner, the instant invention provides a receiver for an optical data storage system optical data storage system, arranged to enable the slicer control to be performed at a faster rate relative to prior art arrangements that use simple threshold bit-decisions on the signal waveform.

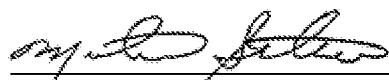Based on the foregoing, it is respectfully submitted that claim 11 is allowable.

Claims 12-15 depend from claim 11, which Applicant has shown to be allowable. Hence the cited portions of Wada fail to disclose or suggest at least one element of each of claims 12-15. Accordingly, claims 12-15 are also allowable, at least by virtue of their dependence from claim 11.

Conclusion

In view of the foregoing amendments and remarks, it is respectfully submitted that all claims presently pending in the application, namely, Claims 1-15 are believed to be in condition for allowance and patentably distinguishable over the art of record.

If the Examiner should have any questions concerning this communication or feels that an interview would be helpful, the Examiner is requested to call Mike Belk, Esq., Intellectual Property Counsel, Philips Electronics North America, at 914-945-6000.

Respectfully submitted,

Atty. Docket No. NL040381 [MS-336]

Appl. No. 10/599,836
Amendment and/or Response
Reply to Office action of 13 May 2009
Confirmation no. 5325

Page 9 of 9

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